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Biological Diversity Act 2002 and its Importance for Conservation of Biological Resources

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Annotation: Biodiversity is well known source for fulfillment of human needs and vital role for the survival of this planet. India has immense biological diversity due to availability of various ecological habitats. This biodiversity has been endangered and threatened globally due to loss of habitats, exploitation, over consumption, unregulated trade, poaching, pollution and global warming remarkably after decade of 1950. The bio-wealth is decreasing very speedily due to illegal human activities. India is also facing this problem. To conserve and protect biodiversity many local measures were also done in India in ancient time. But the level of loss of biodiversity has increased so much during 20th century. Although there are so many acts and legislations related to biodiversity conservation governing the rules directly or indirectly. The Biological Diversity Act, 2002 has a great importance in history of conservation of Biological resources in India. National Biodiversity Authority (NBA) was established in the year 2003 which is a body to implement this act properly in the country. This progressive act addresses several aspects relating to conservation and management of biodiversity and associated traditional knowledge, equitable sharing of benefits from the use of biological resources, regulated access to biological and genetic resources, many provisions regarding benefit sharing to access and transfer of biological resources or knowledge for various purposes. The Act is implemented for conservation of biodiversity and benefit of public through National Biodiversity Authority (NBA) at national level, State Biodiversity Boards (SBBs) at state level and Biodiversity Management Committees (BMCs) at local level. The NBA takes measures to protect the biological diversity of the country and oppose the grant of intellectual property rights to any other country on any biological resource of India or its knowledge. On the recommendations of National Biodiversity Authority many areas of biological importance have been set up as heritage sites.

Keywords: Biodiversity, ecosystems, Biological Diversity Act, conservation, resources, benefit.

Introduction

The term biodiversity means the variety of various life forms that are found on this Earth. All plants; animals; micro-organisms and genetic materials are components of biodiversity. It is proved source for fulfillment of human needs and vital role for the survival of this planet. India has immense biological diversity due to availability of various ecological habitats like forests, grasslands, wetlands, coastal, marine and desert ecological systems. All types of climates are found in India. Hence, India is recognised as a mega biodiverse country having 8.1 % of the recorded species of the world. Although this country

has 2.4% of total land area, and 4% of total water of the world. But about 850 species of bacteria, 14500 species of fungi, 46000 species of plants and 91500 species of animals have been documented in India. Out of top 8 globally identified biodiversity hotspots, in India there are two hotspots (Western Ghats and Indo-Burma region). India has a great diversity of natural ecosystems. It is found in cold and high Himalayan regions, sea coasts; arid and tropical forests, and many other ecosystems found in India. India consists of fertile river plains and high plateaus and several major rivers, including the Ganges, Brahmaputra and Indus. Due to presence of different physical features and climatic conditions, there are different types of ecological habitats like forests, grasslands, wetlands, coastal and marine ecosystems and desert ecosystems in India, which harbor and sustain immense biodiversity.

Need to conserve Biodiversity

This is general question that why we should conserve the biodiversity and this very simple answer that we should conserve this due to their ecological economic, scientific, cultural, aesthetic recreational and educational values. The Biodiversity is very useful component in regulation of air and water; supply of water, raw material and genetic resources; erosion control and sediment retention; soil formation; nutrient cycling; waste treatment; pollution and biological control; food production; fulfillment of recreation and cultural purposes.

Acts and regulation to conserve Biodiversity in India

However, biodiversity is being increasingly threatened globally due to loss of habitats, exploitation, over consumption, unregulated trade, poaching, pollution and climate change especially after 1950s. This pressure on biological resources, and resultant fragmentation and degradation of habitats, and loss of biodiversity. At global level, biological wealth has been declining rapidly and the accusing finger is clearly pointing to human activities. The new presence of human being in tropical Pacific Islands has resulted as the extinction of more than 2,000 species of native birds. The IUCN Red List (2004) documents the extinction of 784 species (including 338 vertebrates, 359 invertebrates and 87 plants) in the last 500 years. Some examples of recent extinctions include the dodo (Mauritius), quagga (Africa), thylacine (Australia), Steller's Sea Cow (Russia) and three subspecies (Bali, Javan, Caspian) of tiger. 27 species have been disappeared in last 25 years. These losses are irreversible and are a threat to our own well-being. Presently, 12 per cent of all bird species, 23 per cent of all mammal species, 32 per cent of all cold-blooded vertebrates species and 31 per cent of species of all seed-plants in the world face the threat of extinction.

India has a long history of conservation and sustainable use of natural resources. Cow, Pipal and Tulsi are considered sacred and worshipped all over the country. The Bishnoi community in Rajasthan does not cut green trees and kill animals. Similar to sacred groves, there are ponds and small lakes created with Temples, Dargahs or Gurudwaras. They provide protection to a wide variety of aquatic life forms (mainly fishes). 250 year ago, 363 people including men, women, and children gave their lives to save trees during Chipko Movement in Garhwal region. Sunder Lal Bahuguna and Chandi Prasad Bhatt were the prominent figures of this movement in 20th century. From the past few years, rural women of Uttarakhand have started "SAVE SEED CHAMPAIGN" to save traditional seed varieties. Only purpose of old traditions is also to save these resources from being destroyed and to save for the next generations.

There is forest policy in India since rule of British. First time it came into existence in 1894 and revised in 1952 and 1988. The main purpose of the forest policy is protection, conservation, extension and development of forests. Under this policy some certain areas under forest have been declared as National Parks, Wildlife Sanctuaries, Biosphere Reserves or Ecologically Fragile and Sensitive Areas where effort are being done to conserve biodiversity. At present we have 92 national parks and 515 wildlife sanctuaries covering 15.67 million hectare area, 13 Biosphere Reserves, 19 Wetlands.

Various policies and strategies are formed in India to conserve biodiversity include National Forest Policy amended in 1988, National Conservation Strategy and Policy Statement for Environment and Sustainable Development, National Agricultural Policy, National Land Use Policy, National Fisheries Policy, National Policy and Action Strategy on Biodiversity, National Wildlife Action Plan and Environmental Action Plan. Many formal laws and acts are formed for conservation and sustainable utilization bio-resources after independence. Over the years, India has developed a stable organizational structure and a strong legal and policy framework for protection of biodiversity in the country. A number of policy, legal and administrative measures are in place to address various aspects of biodiversity conservation. Important national legislations are as below:-

- Wildlife (Protection) Act, 1972
- Indian Forest Act, 1927 and Forest (conservation) Act, 1980
- Protection of plant varieties and Farmers Right Act, 2001
- The Scheduled Tribes and other Traditional Forest dwellers Act, 2006
- The Geographical Indications of Goods Act, 1999.
- Biological Diversity Act, 2002
- BD Rules 2004 notified under Section 62 of BD Act 2002
- The Indian Patents Act 1970 and Amendment 2005
- The National Green Tribunal Act, 2010

Biological Diversity Act 2002

Although there are so much acts and legislations related to biodiversity conservation governing the rules directly or indirectly. For the purpose of regulating the access to biological resources of the country with the purpose of securing equitable share in benefits arising out of the use of biological resources and associated knowledge, to conserve and sustainable use of biological diversity, to respect and protect traditional knowledge of local communities and to secure benefit sharing with local people who have conserved the biological resources and inherited knowledge and information relating to their use of biological resources.

Biological Diversity Act 2002 (BD Act) was passed by the Parliament of India in December 2002. Accordingly the Biological Diversity Act 2002 (BD Act) was formulated after intensive consultation with various stakeholders. In accordance with the Section 8, of this Act a National Biodiversity Authority (NBA) was established in the year 2003 which is responsible for its implementation. The Biological Diversity Act, 2002 has a big place in history of conservation of Biological resources of India.

This progressive act has several aspects relating to conservation and management of biodiversity and associated traditional knowledge. Major three aspects are covered under the Biological Diversity Act 2002: conservation of biodiversity, the sustainable use of biological resources and equity in sharing benefits from such use of resources. It basically addresses the issues related with access to genetic resources and concerning with foreign and traditional knowledge of India. This act provides for regulated access to biological and genetic resources by the bonafide end-users for scientific research, commercial use, bio-survey purpose, bio-utilization and other sustainable uses. However, its implementation is proving to be quite challenging. The Act governs access and benefit through National Biodiversity

Authority (NBA) at national level, State Biodiversity Boards (SBBs) at state level and Biodiversity Management Committees (BMCs) at local level.

The Act also frames preparation of People's Biodiversity Registers (PBRs) by the BMCs involving local people and with guidance from SBBs and NBA, for registering traditional knowledge relating to biodiversity. The preparation of PBRs across the country is being implemented in a phased manner after improving the shortcomings. The institutes/agencies which have already initiated such types of programmes are strengthened to complete through SBBs and BMCs. Traditional knowledge documentation is being undertaken by Council of Scientific and Industrial Research in the form of a computerized database called Traditional Knowledge Digital Library. Preparation of PBRs can help us to conserve the biodiversity using traditional knowledge of local people. Although it is very stupendous and time-consuming exercise, it can be very useful to protect our untraced and hidden bio-resources of economic importance.

Functions and Powers of the National Biodiversity Authority

- To regulate activities for access to biological resources and for fair and equitable benefit sharing.
- To advise the Central Government on matters relating to the conservation of biodiversity, sustainable use of its components and equitable sharing of benefits arising out of the utilization of biological resources
- To advise the State Governments in the selection of areas of biodiversity importance to be notified under sub-section (1) of section 37 as heritage sites and measures for the management of such heritage sites.
- To take any measures necessary to oppose the grant of intellectual property rights in any country outside India on any biological resource obtained from India or knowledge associated with such biological resource which is derived from India.
- To prepare a huge database and documentation system to create awareness in public about the value of biodiversity.
- To give information to the person who intends to obtain any biological resource occurring in India or knowledge associated thereto for research or for commercial utilization or for bio-survey and bio-utilization or transfer the results of any research relating to biological resources occurring in, or obtained from, India.
- To frame infrastructure to implement the provision of the act.

For the fulfillment of these purposes, the National Biodiversity Authority shall frame rule and regulations with consult of the Central and Governments from time to time. The State Biodiversity Boards deal the matters related to access to biological resources for commercial purposes and restrict any violation regarding misuse and sharing of these resources. The main function of Biodiversity Management Committees is conservation, sustainable use, and documentation of biodiversity facts and registration of local traditional knowledge about biodiversity.

There are many other strict rules regarding access to biological resources such as:-

This act has framed some norms for access to biological resources and traditional knowledge to foreign citizens, companies and NRIs with prior approval of NBA (Section 3,4,6 of the act and rule 14-20); access for Indians or Indian organization with prior intimation of State Biodiversity Board (section 7) and exemptional access to local people and communities including growers and cultivators of biodiversity and

vaids and hakims (section 7) .In this way, the act works for ensuring effective, efficient, transparent and sustainable use of biological resources.

The rule 15 of this act prohibits the illegal access and labels punishment for damaging the resource. The rule 16 of the act restricts the use of endangered, rare and endemic specie. It also restricts the uses of any biological resources which has adverse effect on community and environment and are not in national interest.

The section 4 of the act does not permit any person to transfer the results of any research relating to biological resources received from India to foreign nationals, companies or NRIs without prior approval. This act permits the transfer of accessed biological resources or related knowledge to third party with only prior permission of National Biodiversity Authority (Rule 19).

The Act, according to Section 21 and Rule 20 insists upon including appropriate benefit sharing provisions in the access agreement and mutually agreed terms related to access and transfer of biological resources or knowledge occurring in or obtained from India for commercial use, bio-survey, bio-utilization or any other monetary purposes.

The BD Act has a provision for setting up of biodiversity funds at national, state and local levels. The benefit is given to individuals or group of individuals who helps directly in accessing the biological resources or associated knowledge.

While granting approvals for access, National Biodiversity Authority impose terms and conditions so as to secure equitable sharing of benefits. This approval will depend upon a) nature of ownership of benefit claimers; b) transfer of technology; c) location of production, research and development units in such areas which will facilitate better living standards to the benefit claimers; d) association of Indian scientists, benefit claimers and the local people with research and development in biological resources and bio-survey and bio-utilization; e) setting up of venture capital fund for aiding the cause of benefit claimers; f) payment of monetary compensation and other non-monetary benefits to the benefit claimers.

The rule 36 says that the Central Government shall develop national strategies, plans, programs for the conservation and promotion and sustainable use of biological diversity including measures for identification and monitoring of areas rich in biological resources, promotion of in situ, and ex situ, conservation of biological resources, incentives for research, training and public education to increase awareness with respect to biodiversity. The govt. will take measures to conserve biological resources and habitat to be not overused or abused or neglected.

For assessment of environmental impact of any development project which is likely to have adverse effect on biological diversity, the govt. will regulate, manage or control the risks associated with the use and release of living modified organisms resulting from biotechnology likely to have adverse impact on the conservation and sustainable use of biological diversity and human health.

Respect and protection of the knowledge of local people relating to biological diversity should maintain under this act.

Areas of importance as Biodiversity Heritage sites (Section 37) are recognized with consult of State Biodiversity Board to conserve the resources therein.

The National Biodiversity Authority imposes some terms and conditions while granting access to the biological resources to secure equitable sharing of benefit. Nature of ownership of the biological should not be changed .The access should facilitate better living standards to the benefit claimers. This access may be used for research by the Indian scientists and educationists for benefit of end-user and the local people. This should help in setting up of venture capital fund for aiding the cause of benefit claimers.

Provision of payment of monetary compensation and other non-monetary benefits to the benefit claimers is also included in the act.

In all other cases, monetary benefits will be deposited in the Biodiversity Fund which in turn is used for the conservation and development of biological resources and socio-economic development of areas from where resources have been a

The National Biodiversity Authority framed under the Biodiversity Act (2002) in line is bounded with the provisions of international laws and policies, particularly CBD and the Bonn Guidelines. The entire procedures as described in the Act can contribute substantially to facilitate an international regime of ABS on genetic resources and traditional knowledge.

Gaps of BDA, 2002

Some of provisions of the act are progressive, yet there are some gaps such as :

- It exempts those plants that are registered under the Protection of Plant Varieties and Farmers' Rights (PVPFR) Act, 2001. In this way it gives concession to corporations and scientists to breed new varieties of crops and to gain intellectual property rights.
- It restricts the citizens to go to courts directly. Such power is restricted to an appeal in the High Court against any order by the NBA or the SBB.
- It is unnecessarily soft on Indian corporate and other entities, requiring only "prior intimation" to a SBB for the commercial use of bioresources, rather than permission from the NBA as in the case of foreigners. The commercial agencies have no much relation with the society.
- Very less right to local communities to protect their resources and knowledge from being misused and to generate benefits.
- Declaration of Heritage Sites should be done with consent of the affected communities.
- Control and management these sites of Local communities should have right to control and manage this site with check of govt.
- Some non-government organizations have much interest in saving biodiversity. They should be encouraged and funded properly by the government.

Conclusion

The Govt. of India has used this act for conserving the biodiversity of the country along with the other acts and policies. On the recommendations of National Biodiversity Authorities many areas of biological importance have been set up as heritage where many species of animal, plants, organisms, fishes and other flora and fauna are secure in the lap of nature. Yet many shortcomings are there in implementing this act. There is very much need of awareness about biodiversity's value for the human being through mass media. We should share our knowledge to other countries and also benefit from their experience as it is not concern of a country but of the whole world. We should treat the flora and fauna as friends that acts as our life insurance policy. There is an urgent need to develop appropriate national and international guidelines for implementing the provisions of National Biodiversity Authority and thereby preventing misappropriation of traditional knowledge as well as conserving of bio-resources for the future. Some acts and regulations regarding the conservation of environment should be enacted by the Govt. and strict implementation should be confirmed.

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